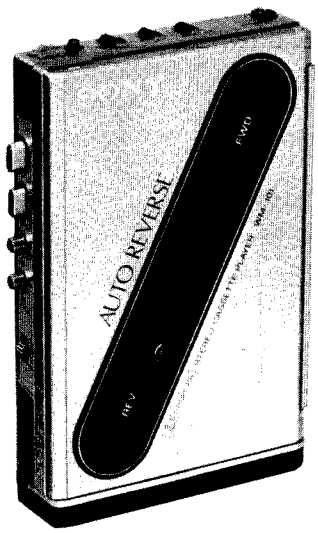
WM-100/101

SERVICE MANUAL



AW30

•WM-100
US Model
Canadian Model

•WM-101
AEP Model
UK Model
E Model

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Frequency response (DOLBY NR OFF)
- 40–15,000 Hz (with the TAPE selector set to CrO_2/METAL)
- 40–15,000 Hz (with the TAPE selector set to NORM)

Power output
- 4mW + 4mW at dc operation (at 10% total harmonic distortion)

Power requirements
- 1.5 V dc
- Rechargeable battery
- IEC designation (L)R6 battery (size AA)
- DC IN 1.5 V jack accepts:
- Sony AC-D1 ac power adaptor (optional) for use on 100, 120, 220 or 240 V AC, adjustable
- Sony EBP-10 battery case (optional) for use on two IEC designation R6 batteries (size AA)
- Sony DCC-70 car battery cord (optional) for use with 12 V car battery

Battery life (EIAJ) (hours)

Battery	Tape playback
Sony NC-5WM rechargeable (full charge)	Approx. 2
Sony SUM-3(NS) New Super	Approx. 2
Sony Eveready AM3 alkaline	Approx. 4

For maximum performance we recommend the use of alkaline battery.

Tape Transport Mechanism Type	MT-WM101-01

0dB = 0.775V

Dimensions
- excl. projecting parts and controls
  - Approx. 69.8 × 110.5 × 19.8 mm(w/h/d) ($2^{3}/_{4} \times 4^{3}/_{8} \times {}^{25}/_{32}$ inches) with rechargeable battery pack attached
  - Approx. 69.8 × 119.2 × 19.8 mm(w/h/d) ($2^{3}/_{4} \times 4^{3}/_{4} \times {}^{25}/_{32}$ inches) with battery pack attached
- incl. projecting parts and controls
  - Approx. 74.6 × 112.1 × 22.2 mm(w/h/d) ($3 \times 4^{1}/_{2} \times {}^{7}/_{8}$ inches) with rechargeable battery pack attached
  - Approx. 74.6 × 120.8 × 22.2 mm(w/h/d) ($3 \times 4^{7}/_{8} \times {}^{7}/_{8}$ inches) with battery pack attached

Weight
- Approx. 200 g (7.1 oz) incl. rechargeable battery pack and rechargeable battery, not incl. other accessories
- Approx. 200 g (7.1 oz) incl. battery and battery pack, not incl. other accessories

MICROFILM

STEREO CASSETTE-PLAYER

SONY®

TC

Servicing Note

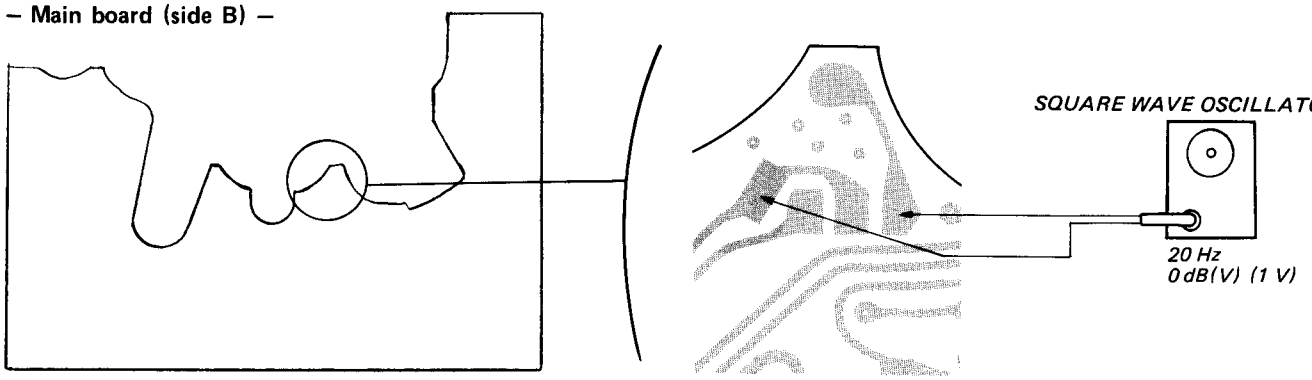
This set detects rotation of reel table by PH701 (Photo interrupter).

It cannot be detected when the main board is removed, because PH701 is mounted on the main board is removed.

Therefore, the auto off circuit and tape end detection will misoperate.

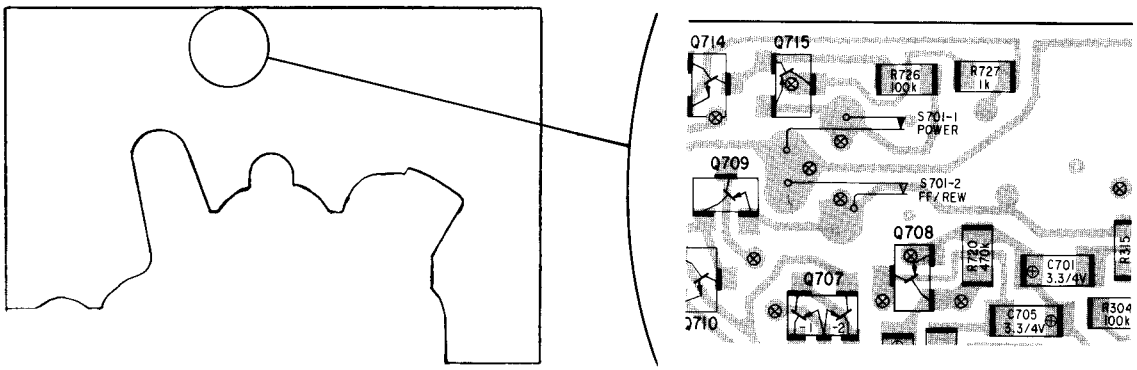
Operation check can be done by the method shown below even when the main board is removed.

– Main board (side B) –



- For PLAY, press the ▶ button and turn only the POWER switch ON.
- For FF and REW, press ▶▶ or ◀◀ button and turn both POWER switch and FF/REW switch ON.

– Main board (side A) –



Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

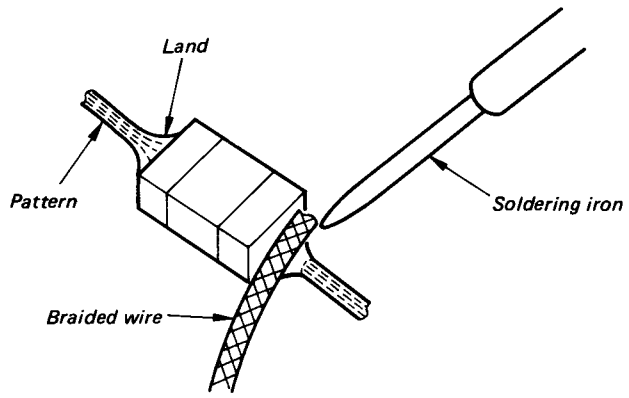
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

(1) Removing solder at electrode

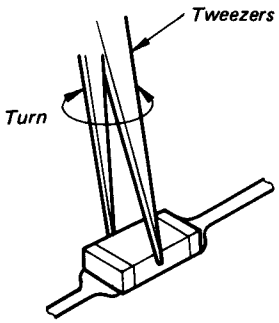
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

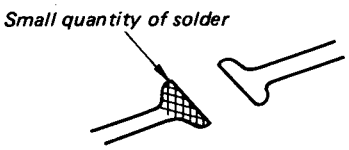
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

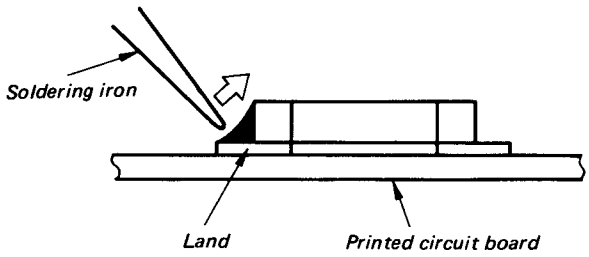
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



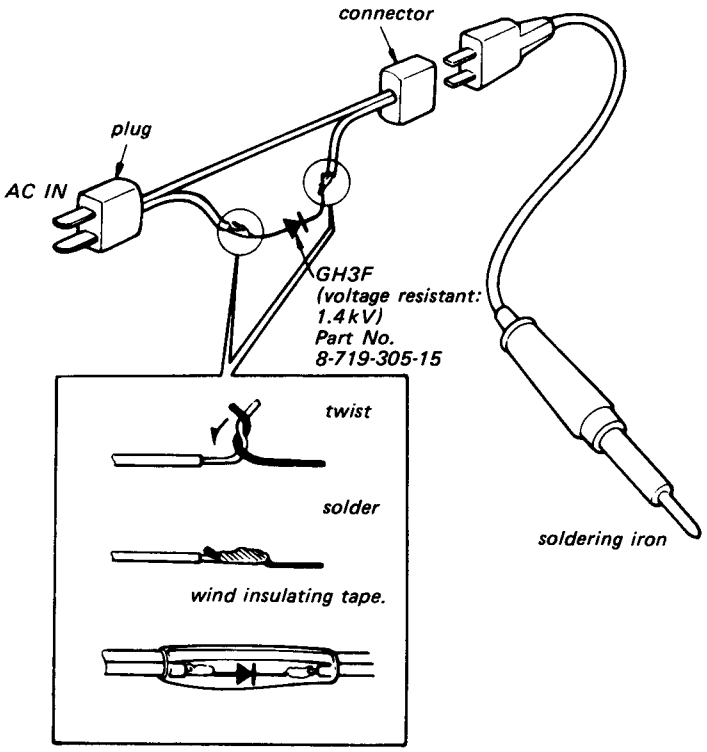
(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

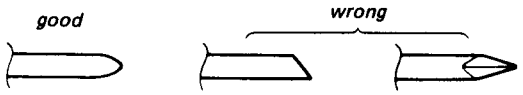
Flexible Circuit Board Repairing

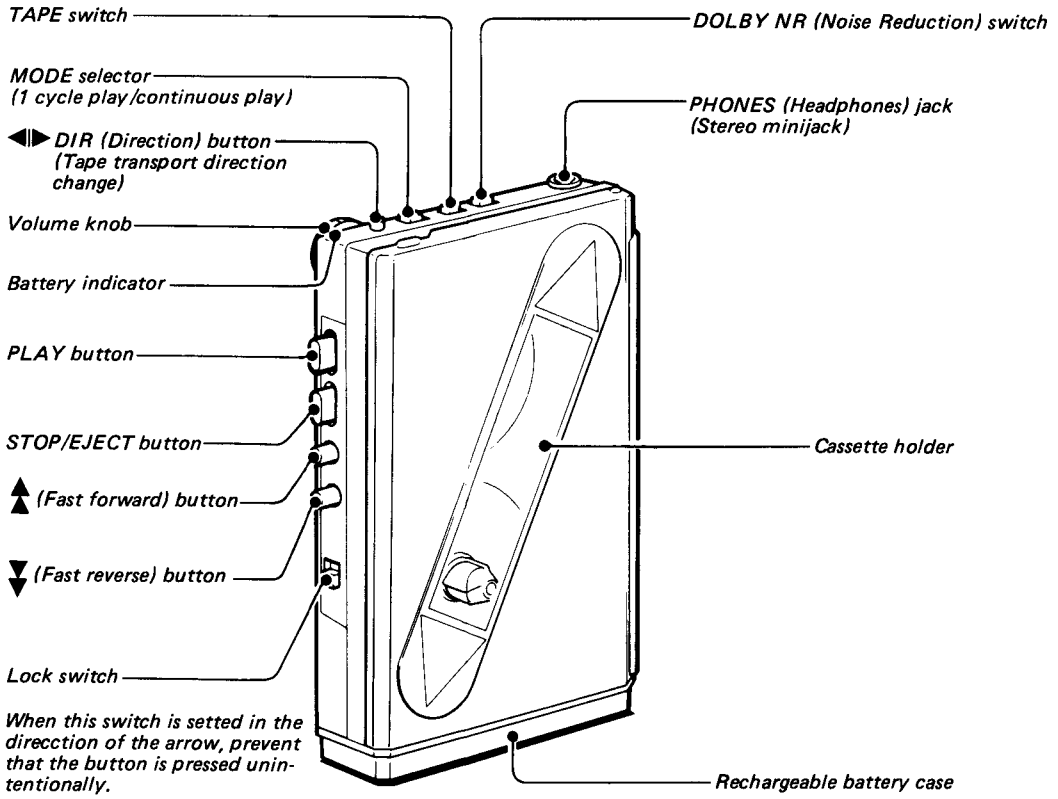
1. Keep the temperature of the soldering iron at 270° ± 10° C during repairing.
   You can maintain the temperature of the soldering iron around 270°C by using the thermal controller as illustrated on the right.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

To make thermal controller of soldering iron

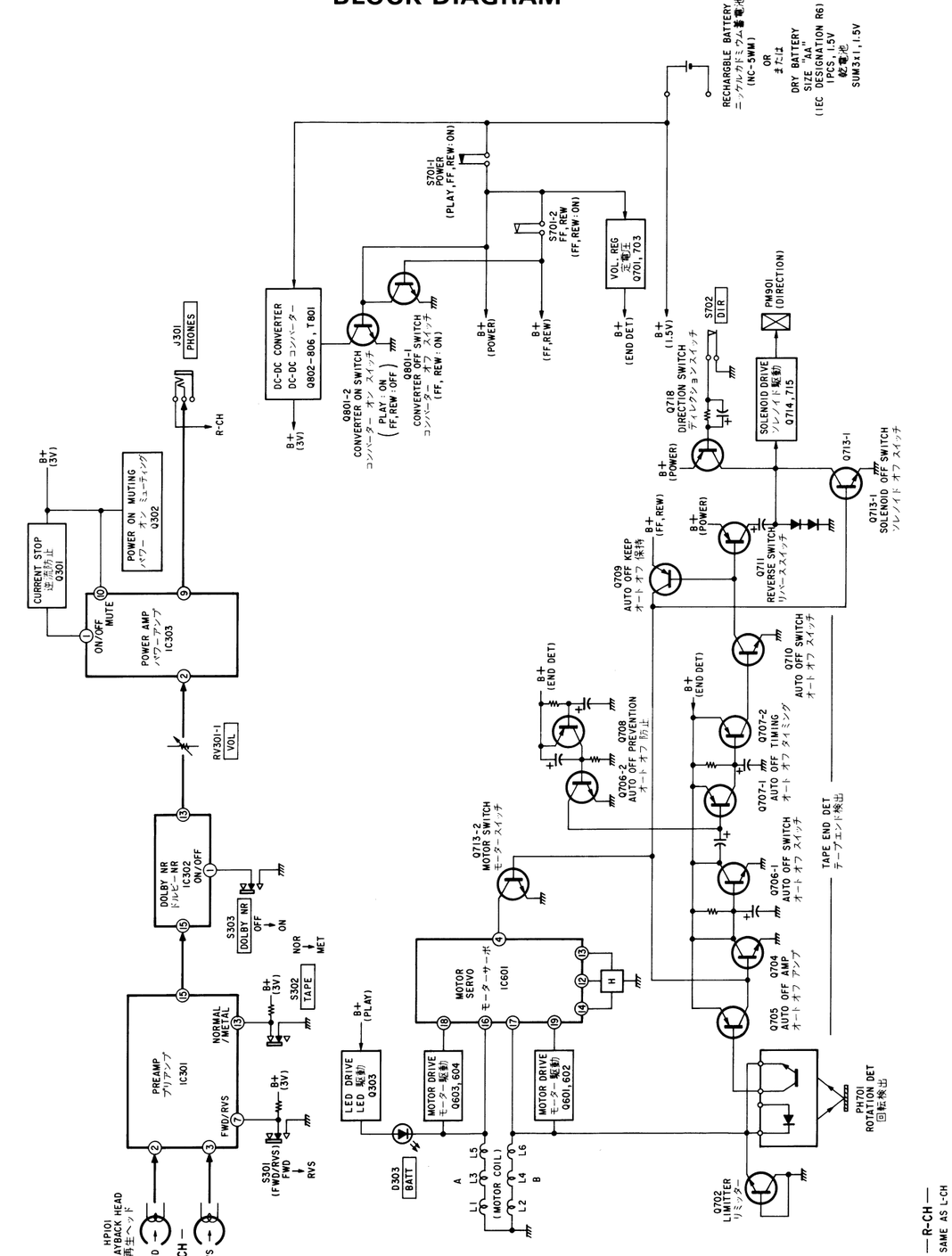


Tip of soldering iron





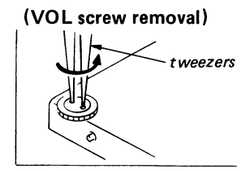
SECTION 1
BLOCK DIAGRAM



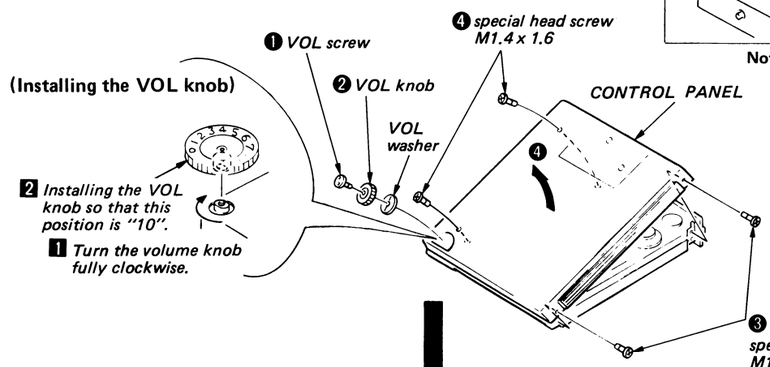
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

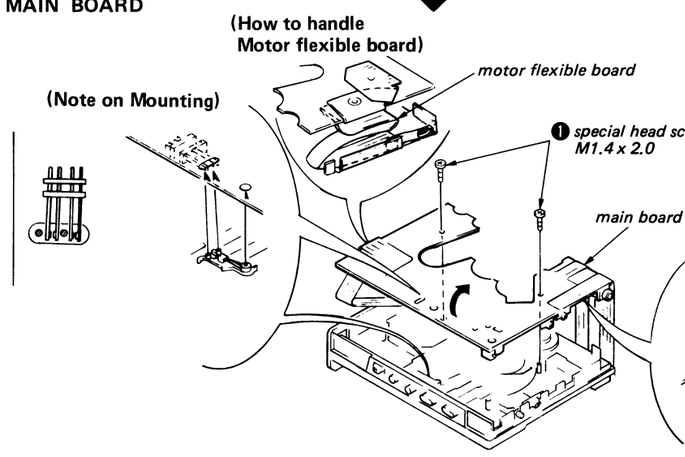
CONTROL PANEL



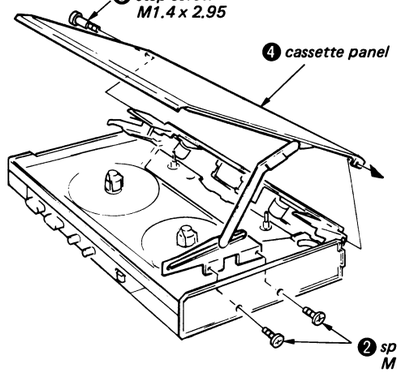
Note: *When installing the control panel, press the PLAY button and install in the reverse order given in the figure.*


(Installing the VOL knob)
2 Installing the VOL knob so that this position is "10".
1 Turn the volume knob fully clockwise.
1 VOL screw
2 VOL knob
VOL washer
4 special head screw M1.4 x 1.6
CONTROL PANEL
3 special head screw M1.4 x 1.6

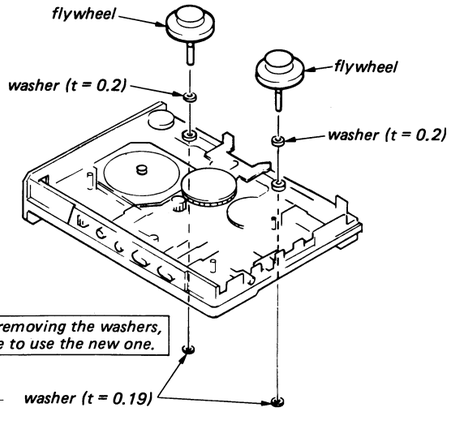
MAIN BOARD


(How to handle Motor flexible board)
motor flexible board
(Note on Mounting)
1 special head screw M1.4 x 2.0
main board
(Note on Mounting)

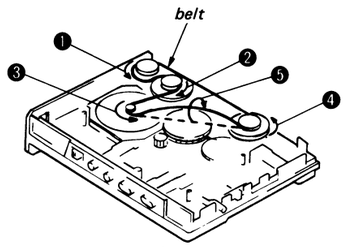
CASSETTE PANEL



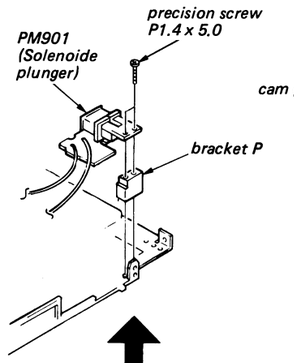
FLYWHEEL



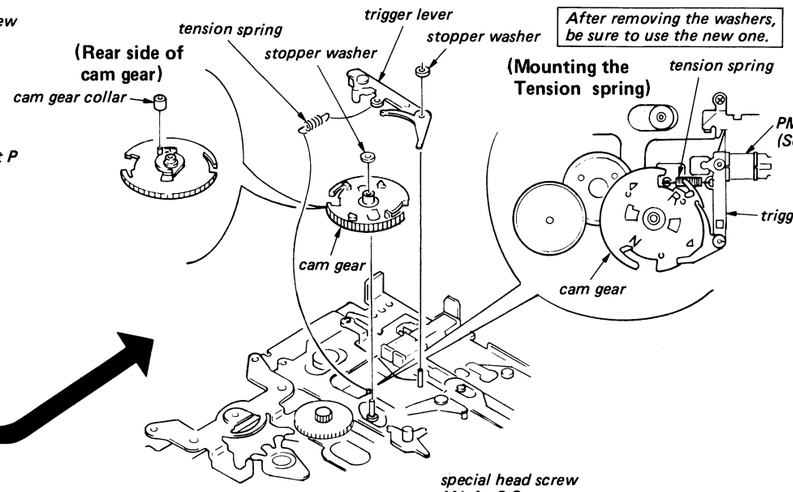
INSTALLING THE BELT



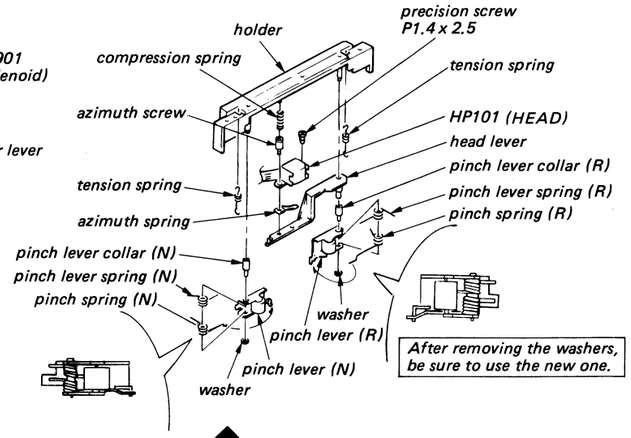
SOLENOID PLUNGER



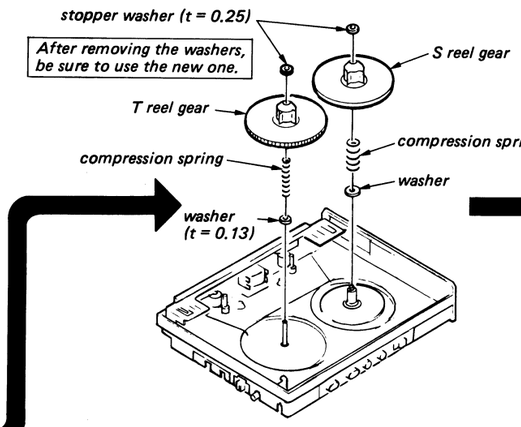
TRIGGER LEVER, CAM GEAR



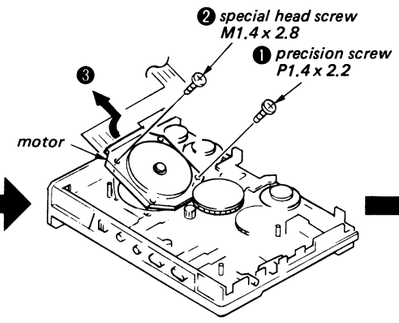
HEAD, PINCHROLLER



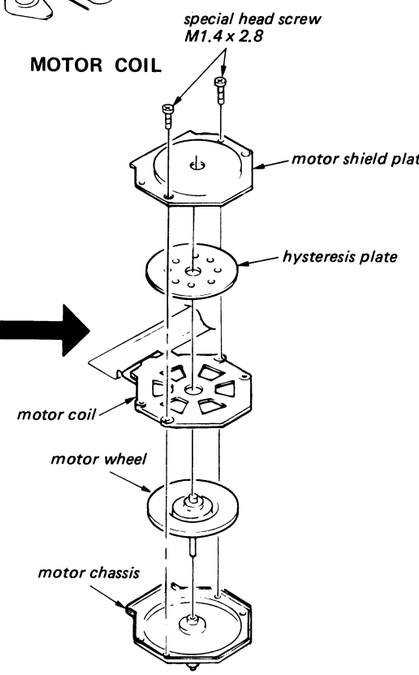
REEL GEAR



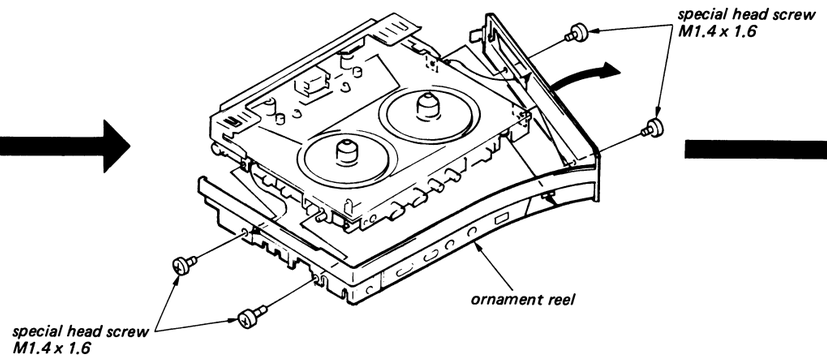
MOTOR



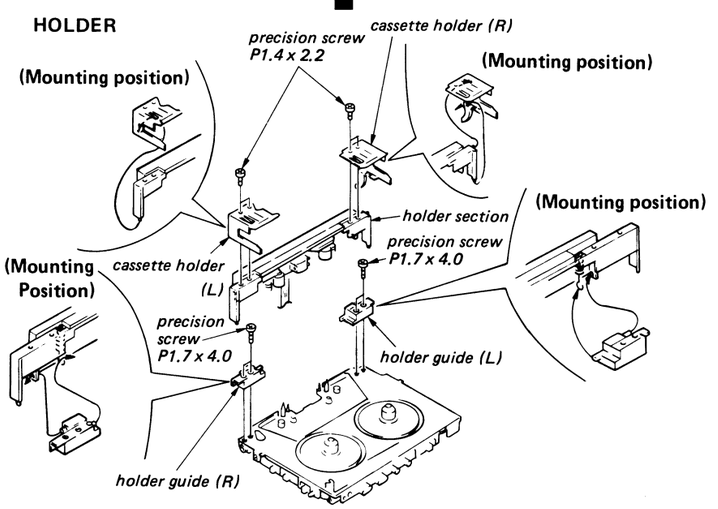
MOTOR COIL



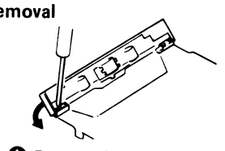
ORNAMENT REEL



HOLDER



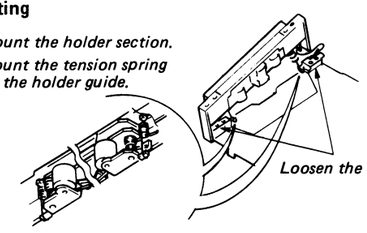
Removal



1. Remove the cassette holder and remove the holder guide screws.
2. Remove the holder section in the direction of the arrow.

Mounting

1. Mount the holder section.
2. Mount the tension spring on the holder guide.

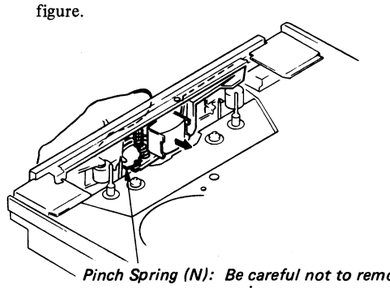


It is easier to install when the tension spring is hooked on the holder guide as illustrated.

2-2. HOW TO REPLACE HP101 (HEAD)

HP101 (HEAD) can be replaced without removing the holder section. The procedure is as follows.

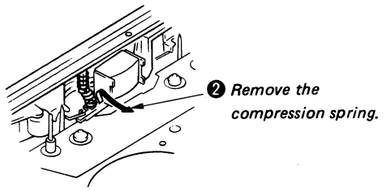
Note: Push HP101 *(HEAD)* in the direction of the arrow by hand, as shown in the figure.



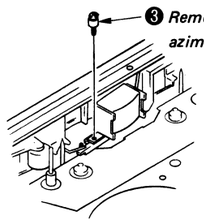
Pinch Spring (N): Be careful not to remove this spring. This spring comes off easily when HP101 is pressed hard. HP101 (HEAD) can be replaced even with the spring off, but the spring must be returned to its original position.

REMOVAL

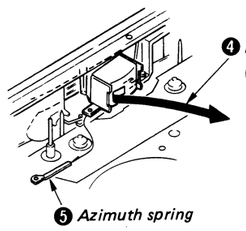
❶ *Unsolder the head flexible board from the main board (Side B)*



❷ *Remove the compression spring.*



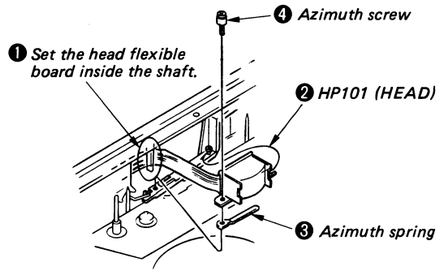
❸ *Remove the azimuth screw.*



❹ *Remove the HP101 (HEAD).*

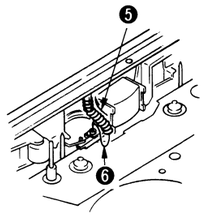
❺ *Azimuth spring*

MOUNTING



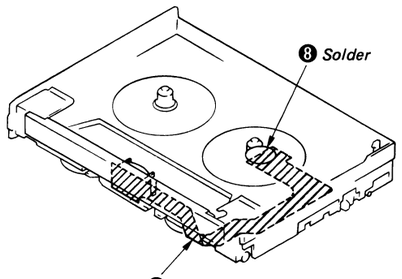
❶ *Set the head flexible board inside the shaft.*
❷ *HP101 (HEAD)*
❸ *Azimuth spring*
❹ *Azimuth screw*

Note: Handle carefully as the head flexible board is cut easily.



❺
❻

Note: When mounting the compression spring, it is easier if HP101 (*HEAD*) is not pressed.



❽ *Solder*

❼ *Arrange the head flexible board as shown in this figure.*

SECTION 3
ADJUSTMENTS

MECHANICAL ADJUSTMENTS AND MEASUREMENT

PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   - playback head
   - capstan
   - pinch roller
   - rubber belts
   - idlers
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (1.3V) unless otherwise noted.

Torque Measurement

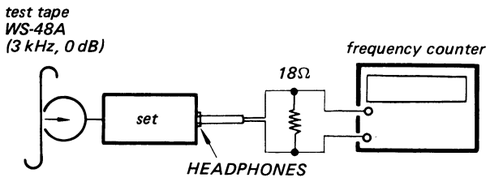
Mode	Torque Meter	Meter Reading
FWD	CQ-102C	23 – 40 g•cm 0.32 – 0.55 oz•inch
FWD Back Tension		1.5 – 3 g•cm 0.02 – 0.04 oz•inch
REV	CQ-102RB	23 – 40 g•cm 0.32 – 0.55 oz•inch
REV Back Tension		1.5 – 3 g•cm 0.02 – 0.04 oz•inch
FF	CQ-201B	more than 60 g•cm more than 0.83 oz•inch
REW		more than 60 g•cm more than 0.83 oz•inch

Tape Pulling Force Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 50 g more than 1.76 oz
REV	CQ-403R	more than 50 g more than 1.76 oz

Tape Speed Adjustment

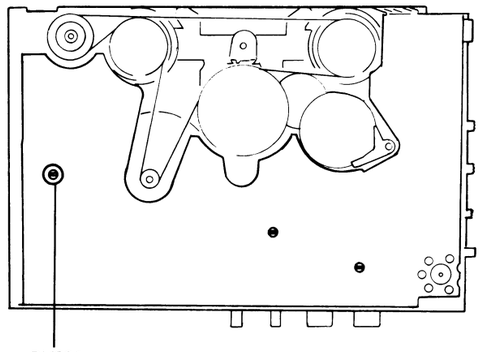
Procedure:



1. Playback WS-48A (Tape center portion) in FWD mode.
   Adjust the RV601 so that the frequency counter reads 3,000 Hz ±10 Hz.
2. Playback WS-48A (Tape center portion) in REV mode.
   Confirm that the reading of frequency counter is within 1.5% from the reading in step 1.

Adjustment Location:

Main Board – Side B –

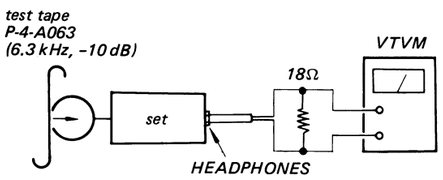


RV601

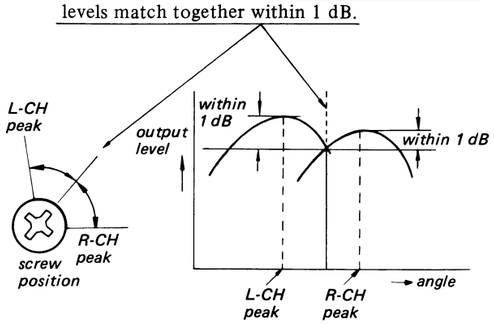
Playback Head Azimuth Adjustment

Procedure:

1. Playback mode

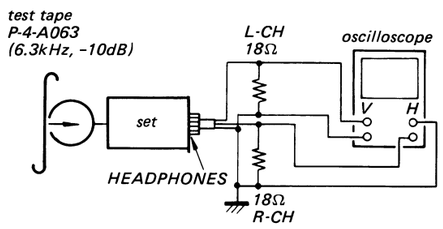


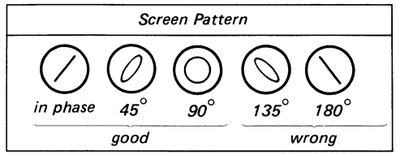
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



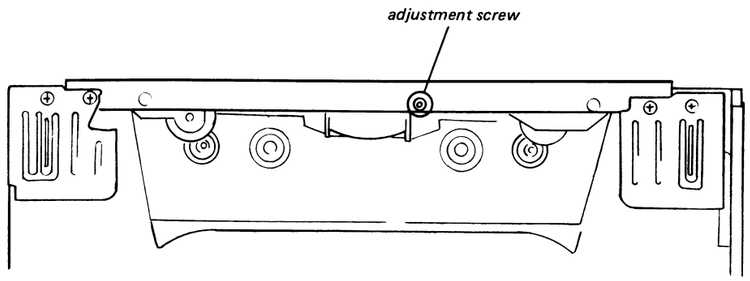
Adjustment should be made in both directions of FWD and REV.
Adjustment screws should be stopped turning in the clockwise direction.
After the adjustment, lock the screws with locking compound.

3. Phase Check





Adjustment Location:

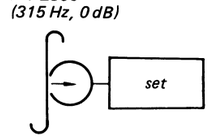


Playback Level Adjustment

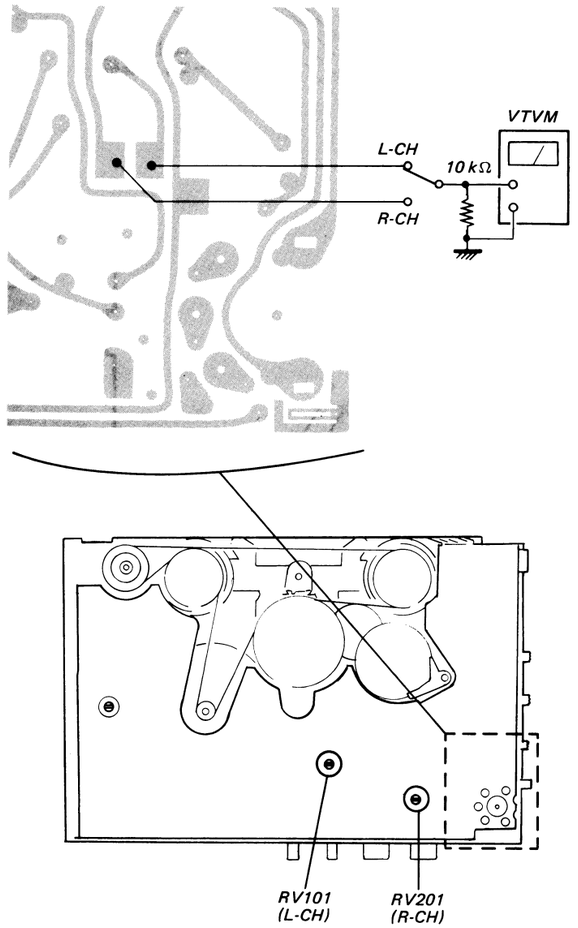
DOLBY NR switch . . . . . OFF
VOL knob . . . . . MINIMUM

Procedure:

1. Playback mode

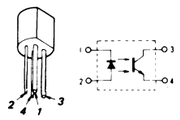


2. Adjust RV101 (L-CH), R201 (R-CH) so that the VTVM reading is -20.5 ±0.5 dB (0.07 V – 0.077 V).

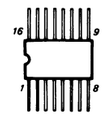


• Semiconductor Lead Layouts

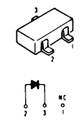
NJL5141E



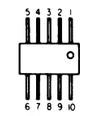
TA7739F



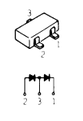
DA106K
RD3.9M-B1



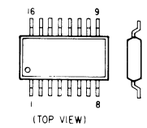
CX20089A



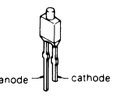
1SS123



NJM2063AM

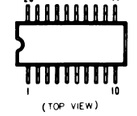


GL2PR9

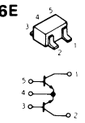


2SA1162
2SB624-BV4
2SC2712
2SD596
DTA114TK
DTC114TK

CX20123

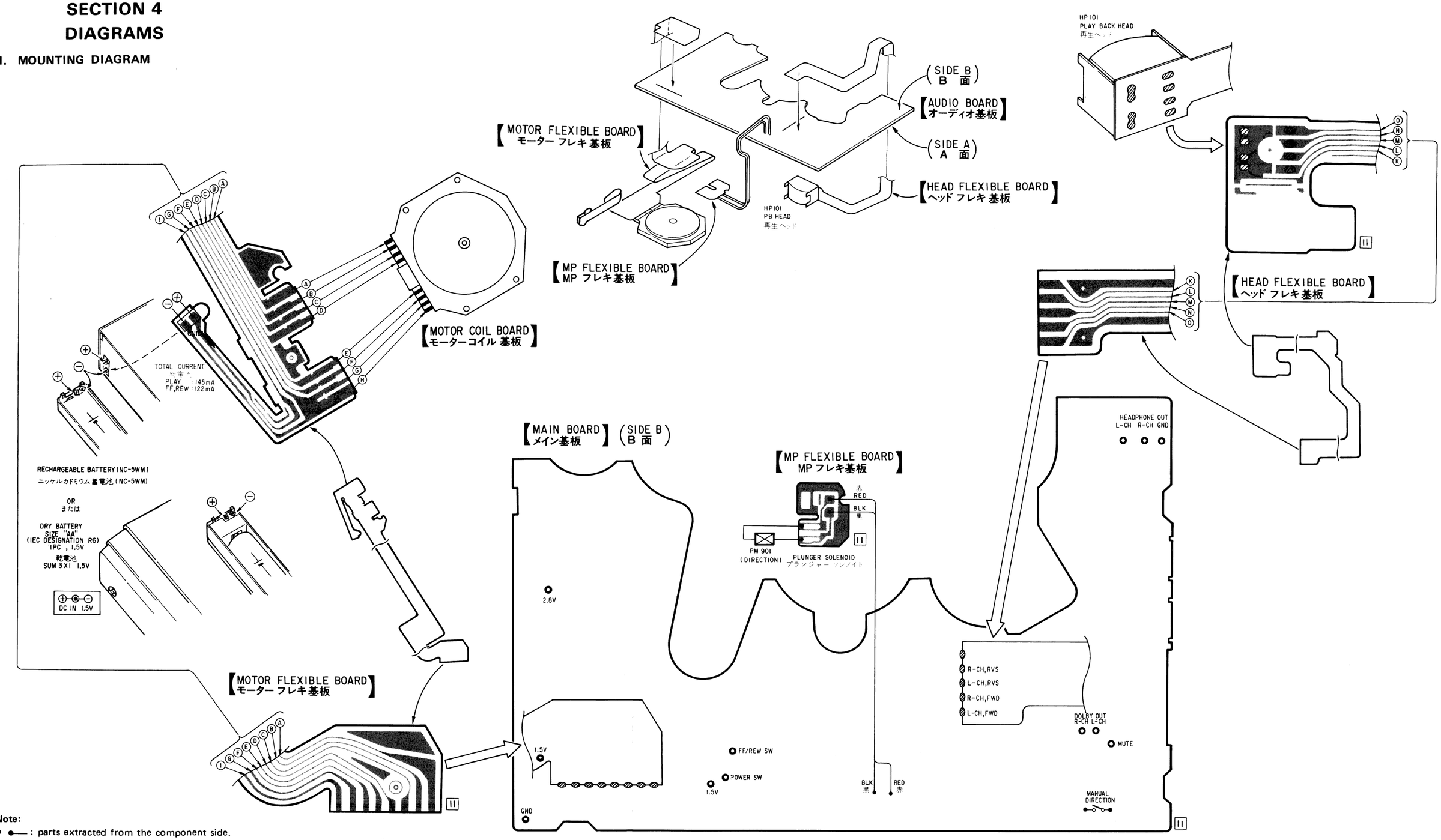


FMG4
FMS1
TA86E



SECTION 4
DIAGRAMS

4-1. MOUNTING DIAGRAM

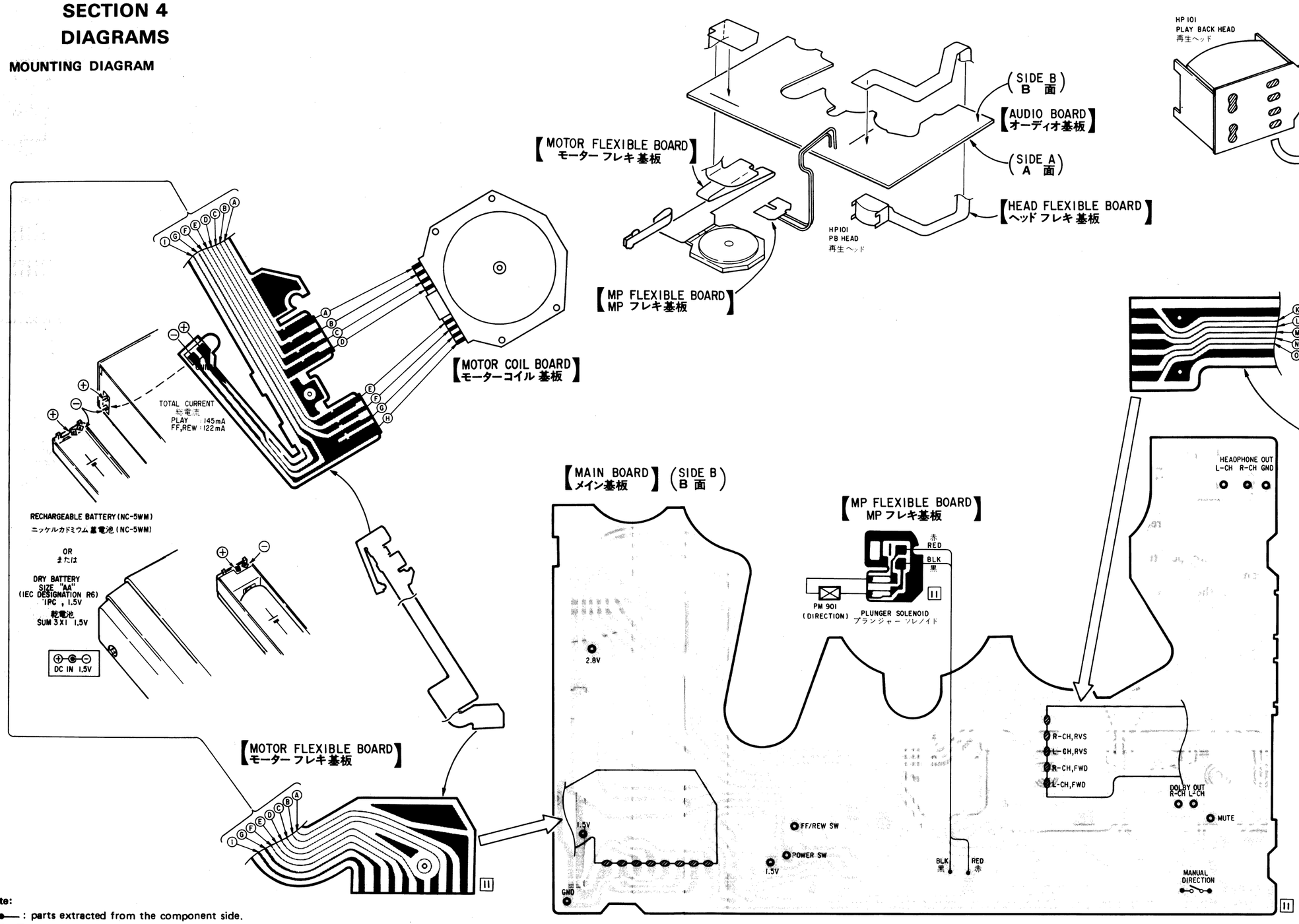


Note:

- ●— : parts extracted from the component side.
- ⊗ : Through hole.
- ● : Component-side pattern

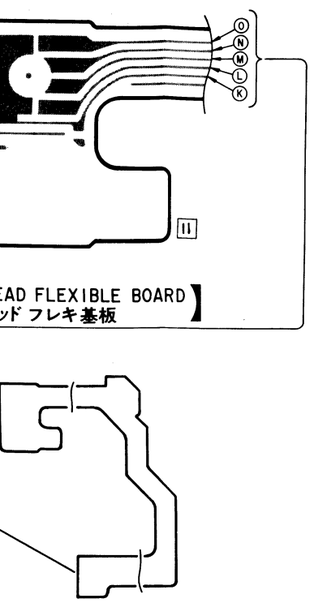
SECTION 4
DIAGRAMS

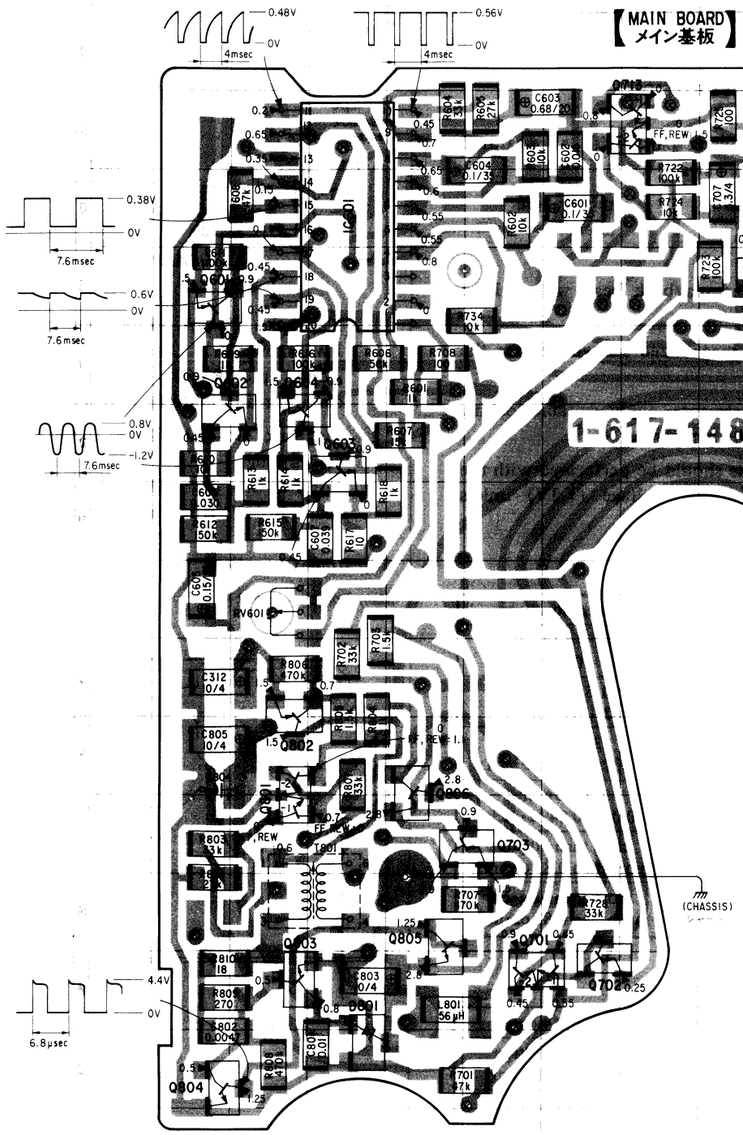
4-1. MOUNTING DIAGRAM

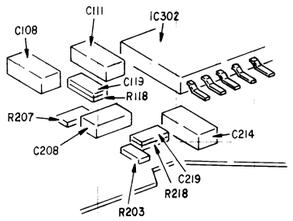


Note:

- ●— : parts extracted from the component side.
- ⊗ : Through hole.
- ▒ : component-side pattern.

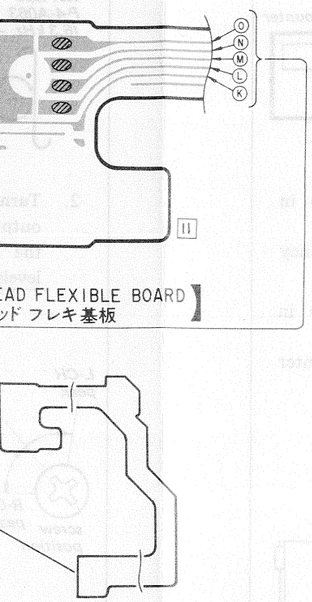


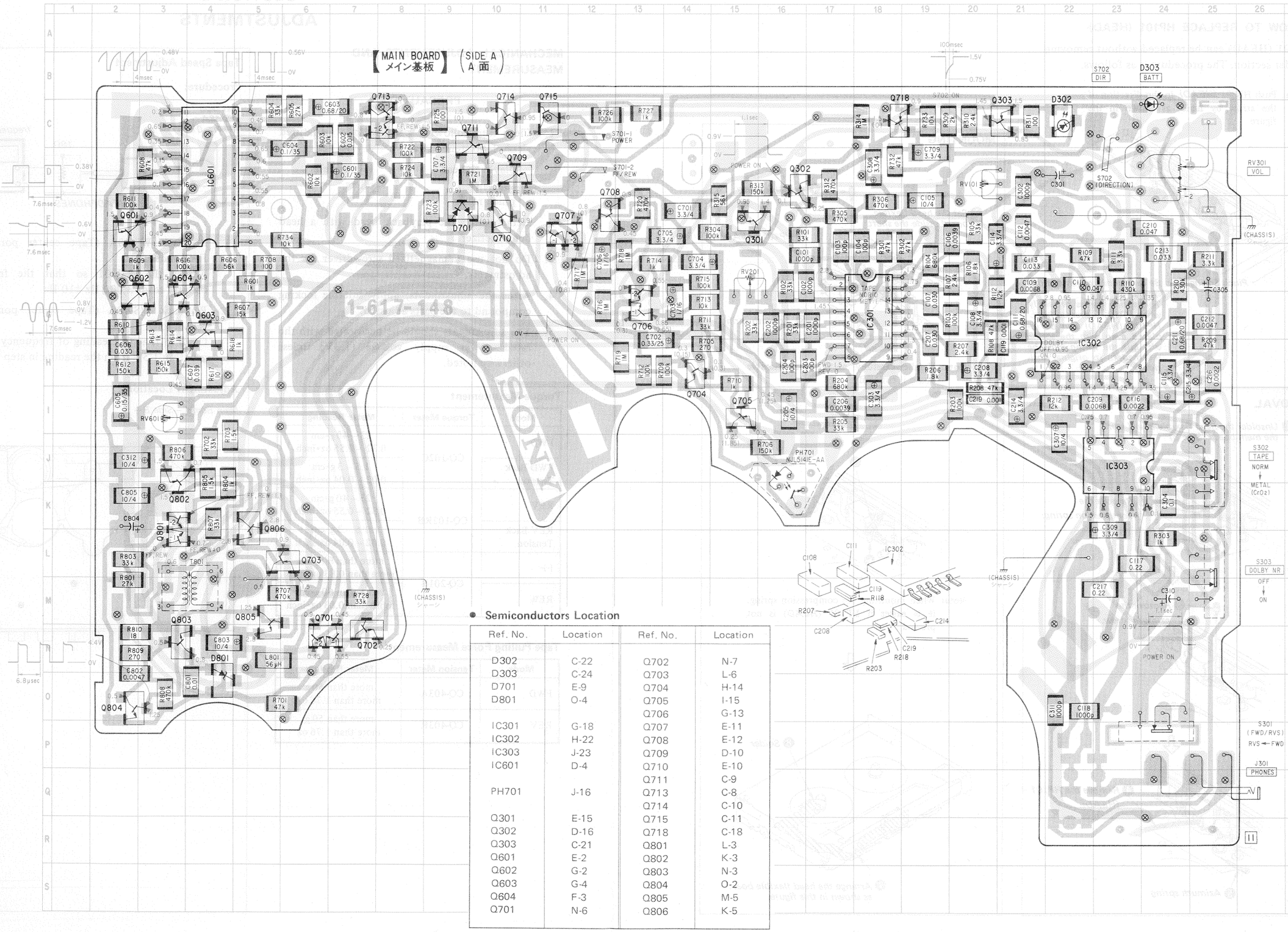




- **Semiconductors Location**

Ref. No.	Location	Ref. No.	Location
D302	C-22	Q702	N-7
D303	C-24	Q703	L-6
D701	E-9	Q704	H-14
D801	O-4	Q705	I-15
		Q706	G-13
IC301	G-18	Q707	E-11
IC302	H-22	Q708	E-12
IC303	J-23	Q709	D-10
IC601	D-4	Q710	E-10
		Q711	C-9
PH701	J-16	Q713	C-8
		Q714	C-10
Q301	E-15	Q715	C-11
Q302	D-16	Q718	C-18
Q303	C-21	Q801	L-3
Q601	E-2	Q802	K-3
Q602	G-2	Q803	N-3
Q603	G-4	Q804	O-2
Q604	F-3	Q805	M-5
Q701	N-6	Q806	K-5





● **Semiconductors Location**

Ref. No.	Location	Ref. No.	Location
D302	C-22	Q702	N-7
D303	C-24	Q703	L-6
D701	E-9	Q704	H-14
D801	O-4	Q705	I-15
		Q706	G-13
IC301	G-18	Q707	E-11
IC302	H-22	Q708	E-12
IC303	J-23	Q709	D-10
IC601	D-4	Q710	E-10
		Q711	C-9
PH701	J-16	Q713	C-8
		Q714	C-10
Q301	E-15	Q715	C-11
Q302	D-16	Q718	C-18
Q303	C-21	Q801	L-3
Q601	E-2	Q802	K-3
Q602	G-2	Q803	N-3
Q603	G-4	Q804	O-2
Q604	F-3	Q805	M-5
Q701	N-6	Q806	K-5

4-2. SCHEMATIC DIAGRAM

【MAIN BOARD】
【メイン基板】

【HEAD FLEXIBLE BOARD】
ヘッドフレキ基板

【MOTOR FLEXIBLE BOARD】
モーターフレキ基板

【MOTOR COIL BOARD】
モーターコイル基板

IC301 PREAMP プリアンプ

IC302 DOLBY NR ドルビー NR

IC303 POWER AMP パワーアンプ

IC601 MOTOR SERVO モーターサーボ

Q301 CURRENT STOP 過電流防止

Q302 POWER ON MUTING パワー オン ミューティング

Q303 LED DRIVE LED 駆動

Q709 AUTO OFF HOLD オート オフ 保持

Q701, 703 VOL. REG 定電圧

Q702 LIMITTER リミッター

Q704, 705, 706-1, 707, 710 TAPE END DET テープエンド検出

Q706-2, 708 AUTO OFF PREVENTION オート オフ 防止

Q711 REVERSE SWITCH リバース スイッチ

Q713-1 MOTOR SWITCH モーター スイッチ

Q713-2 SOLENOID OFF SWITCH ソレノイド オフ スイッチ

Q714, 715 SOLENOID DRIVE ソレノイド 駆動

Q718 DIRECTION SWITCH ディレクション スイッチ

Q801-1 CONVERTER OFF SWITCH コンバーター オフ スイッチ

Q801-2 CONVERTER ON SWITCH コンバーター オン スイッチ

Q802 CONVERTER OUTPUT SWITCH コンバーター 出力スイッチ

Q803 VOL. REG 定電圧

Q804 CONVERTER SWITCH コンバーター スイッチ

Q805 RECT 整流

Q806 CONVERTER OUTPUT SWITCH コンバーター 出力スイッチ

Q601-604 MOTOR DRIVE モーター 駆動

PH701 ROTATION DET 回転検出

S301 FWD→RVS (FWD/RVS)

S302

S303

S702 DIR

PH901 (DIRECTION)

CN101

J301 PHONES

TAPE SPEED テープスピード

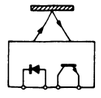
TOTAL CURRENT
総電流
PLAY : 145 mA
FF, REW : 122 mA

RECHARGEABLE BATTERY (NC-5WM)
ニッケルカドミウム蓄電池 (NC-5WM)

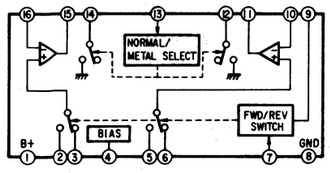
DC IN

DRY BATTERY
SIZE "AA"
(ICE DESIGNATION R6)
1 PCS 1.5V
乾電池
SUM3X1 1.5V

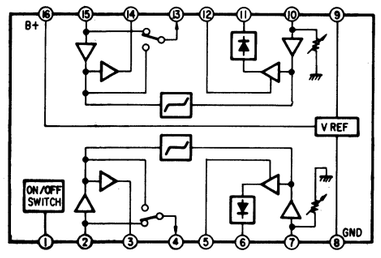
• PH701 NJL5141E-AA



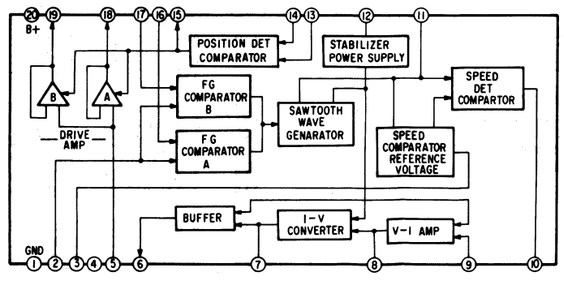
• IC301 TA7739F



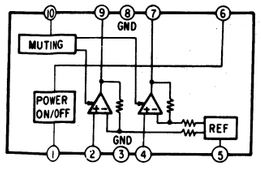
• IC302 NJM2063AM



• IC601 CX20123



• IC303 CX20089



Note:

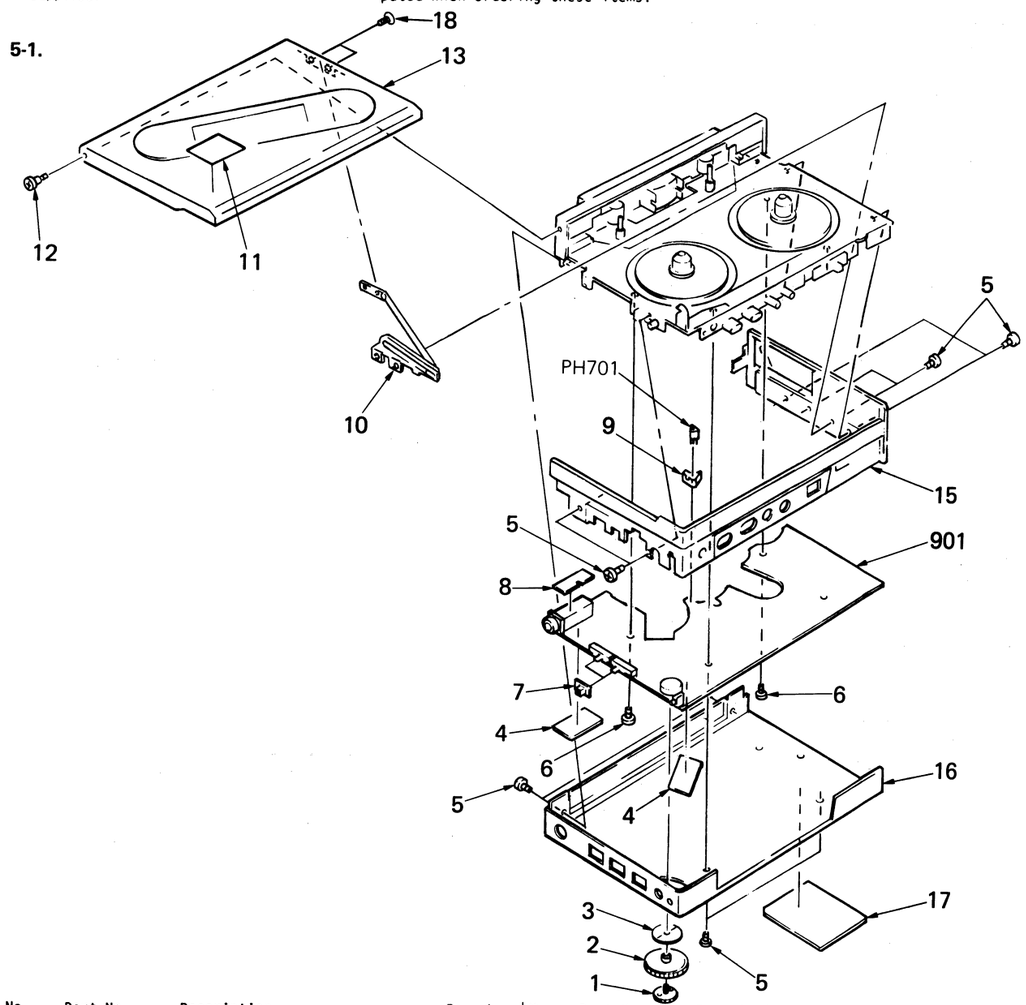
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ——▶——: L-CH SIGNAL PATH
- ——▶——: R-CH SIGNAL PATH
- ——: B+ bus.
- Total current is measured with no cassette installed.
- Readings are taken under no-signal conditions with a VOM (50 kΩ/V).
  No mark: PLAY
  ( ) : When the square wave of 20 Hz, 0 dB (0.775 V) is applied to collector of photo transistor (PH701).
- Power voltage is 1.5 V and fed with stabilized power supply from DC IN jack.
  Voltages are dc with respect to ground in STOP mode.
- Waveforms are taken to ground in no-signal mode by using oscilloscope.
  Voltage variations may be noted due to normal production tolerances.

WM-100/101

SECTION 5
EXPLODED VIEWS AND PARTS LIST

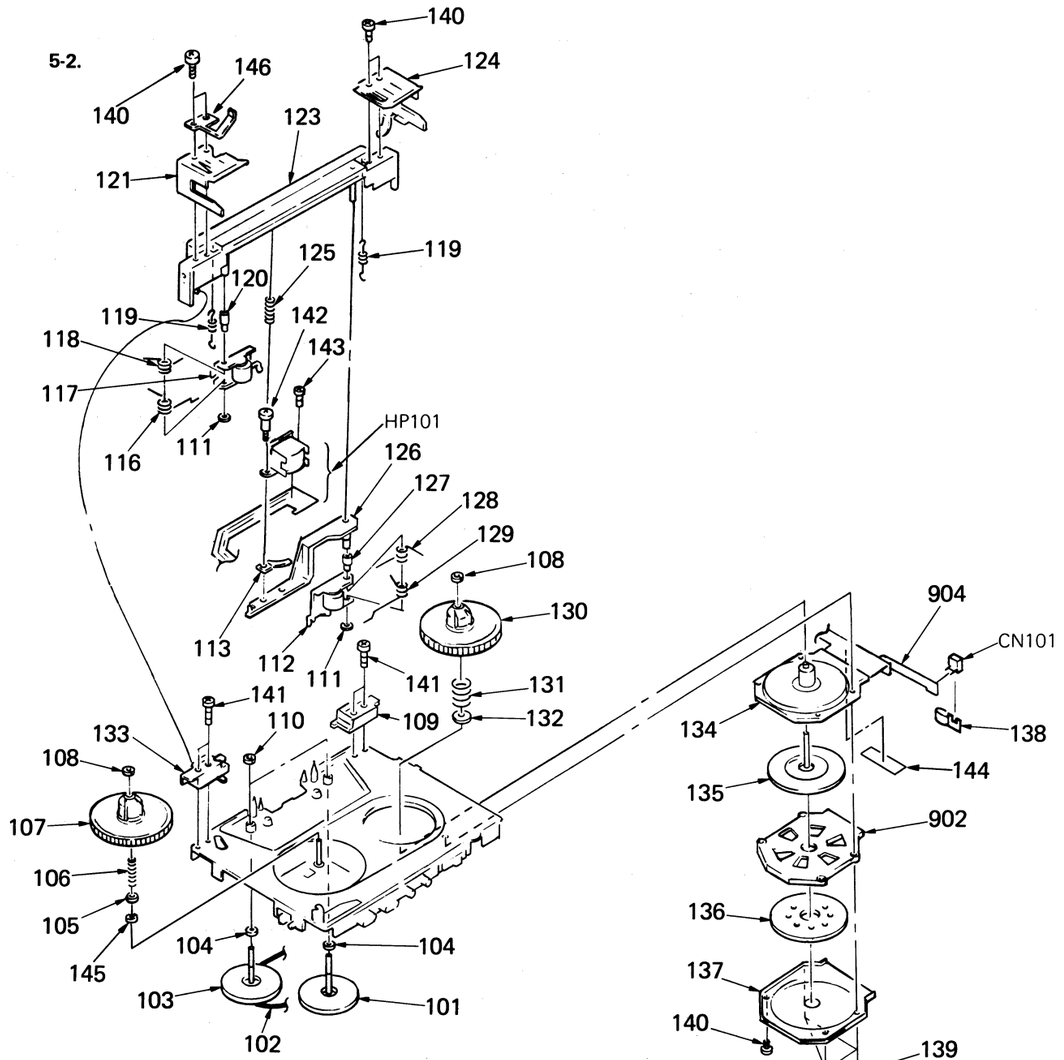
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

5-1.



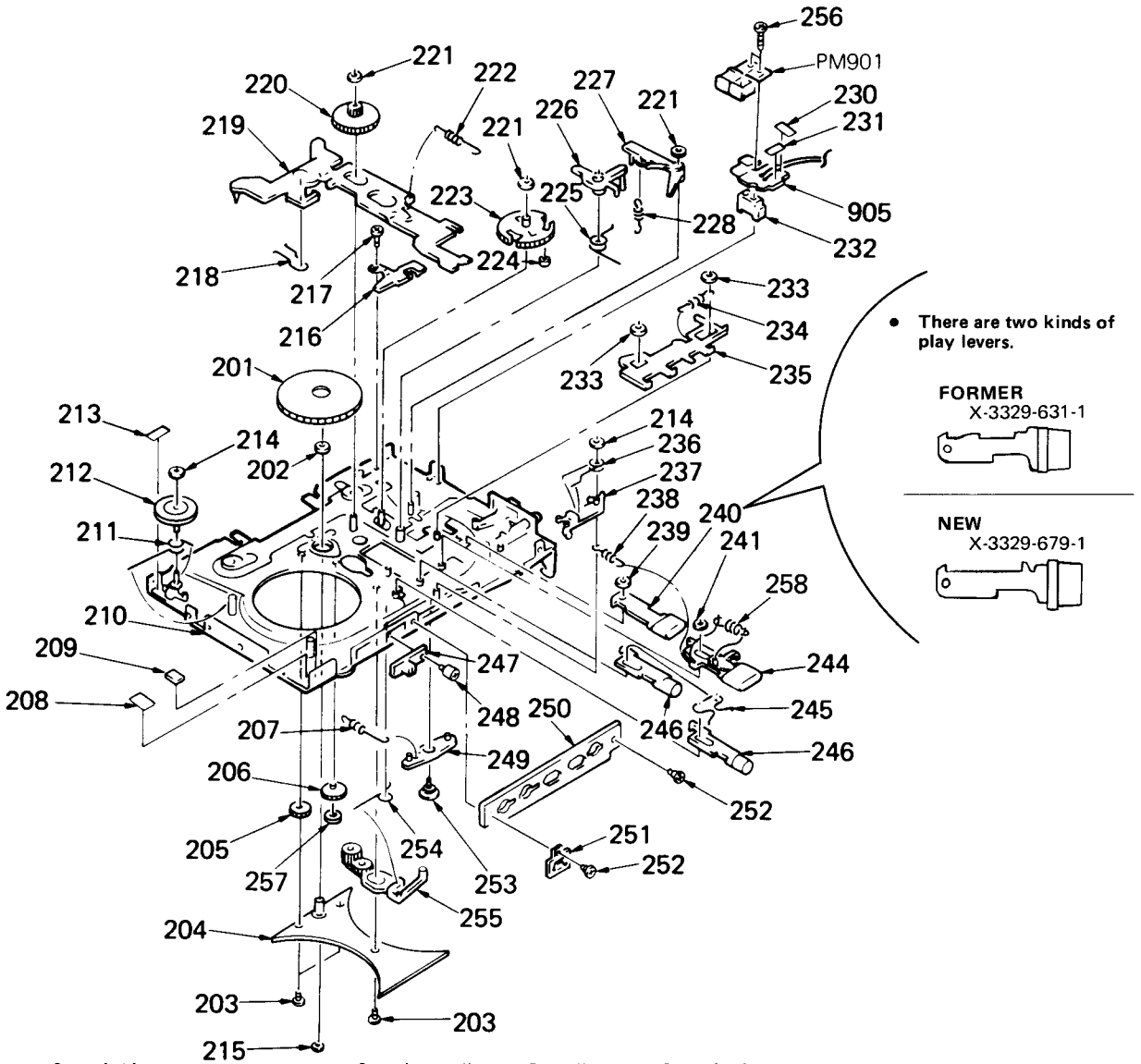
No.	Part No.	Description	Remarks
1	3-315-308-00	SCREW, CONTROL	
2	3-329-767-01	KNOB, VOL	
3	3-315-467-00	WASHER, CONTROL	
4	3-831-441-XX	CUSHION,CABINET UPPER 10X7X0.3	
5	3-703-816-31	SCREW (M1.4X1.6), SPECIAL HEAD	
6	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	
7	3-329-762-01	KNOB, SW	
8	3-331-050-01	SHEET, JACK	
9	3-329-761-01	ADJUSTOR, REFLECTOR	
10	X-3329-684-1	BRACKET ASSY, ARM	
11	3-703-710-01	STICKER, SONY SYMBOL (12)	
12	3-329-766-01	SCREW (M1.4X2.95),STEP	
13	X-3329-685-1	(US,Canadian;BLACK)..PANEL ASSY, CASSETTE	
	X-3329-686-1	(US;SILVER).....PANEL ASSY, CASSETTE	
	X-3329-687-1	(AEP,E;BLUE).....PANEL ASSY, CASSETTE	
	X-3329-688-1	(AEP,UK,E;RED).....PANEL ASSY, CASSETTE	
	X-3329-689-1	(AEP,UK,E;SILVER)...PANEL ASSY, CASSETTE	
	X-3329-690-1	(AEP,UK,E;BLACK)....PANEL ASSY, CASSETTE	
15	X-3329-649-1	(BLACK)....REEL ASSY, ORNAMENT	
	X-3329-651-1	(SILVER)...REEL ASSY, ORNAMENT	
16	X-3329-653-1	(BLACK)....PANEL ASSY, CONTROL	
	X-3329-654-1	(RED).....PANEL ASSY, CONTROL	
	X-3329-655-1	(SILVER)...PANEL ASSY, CONTROL	
	X-3329-656-1	(BLUE).....PANEL ASSY, CONTROL	
17	3-331-005-01	(AEP,UK,E)....LABEL, MODEL NUMBER (FOR RED,SILVER,BLUE)	
	3-331-005-11	(AEP,UK,E)....LABEL, MODEL NUMBER (BLACK)	
	3-331-089-01	(US).....LABEL, MODEL NUMBER (SILVER)	
	3-331-089-11	(US,Canadian)..LABEL, MODEL NUMBER (BLACK)	
18	7-627-451-07	SCREW +K 1.4X1.6	
901	A-3070-153-A	PC BOARD ASSY, AU	
PH701	8-719-751-42	DIODE NJL5141E	

5-2.



No.	Part No.	Description	Remarks
101	X-3329-622-1	FLYWHEEL ASSY	
102	3-329-695-01	BELT	
103	X-3329-622-1	FLYWHEEL ASSY	
104	3-321-394-21	WASHER (t=0.2)	
105	3-686-721-01	WASHER (t=0.13)	
106	3-331-013-01	SPRING, COMPRESSION	
107	X-3329-624-1	GEAR ASSY, T REEL	
108	3-315-384-11	WASHER, STOPPER (t=0.25)	
109	3-329-737-01	GUIDE (LEFT), HOLDER	
110	3-331-007-01	WASHER (t=0.19)	
111	3-331-036-01	WASHER (t=0.25)	
	3-331-036-11	WASHER (t=0.19)	
112	X-3329-602-1	PINCH LEVER (R) ASSY	
113	3-329-644-01	SPRING	
116	3-329-640-01	SPRING (N)	
117	X-3329-601-1	PINCH LEVER (N) ASSY	
118	3-329-642-01	SPRING (N)	
119	3-331-012-01	SPRING (HOLDER), TENSION	
120	3-329-637-01	COLLAR, PINCH LEVER	
121	3-329-713-01	HOLDER (LEFT), CASSETTE	
123	X-3329-634-1	HOLDER ASSY	
124	3-329-714-01	HOLDER (RIGHT), CASSETTE	
125	3-331-038-01	SPRING, COMPRESSION	
126	3-329-710-01	LEVER, HEAD	
127	3-331-027-01	COLLAR (R), PINCH LEVER	
128	3-329-643-01	SPRING (R)	
129	3-329-641-01	SPRING (R)	
130	3-329-729-01	GEAR, SUPPLY REEL	
131	3-331-014-01	SPRING, COMPRESSION	
132	3-320-354-01	WASHER	
133	3-329-736-01	GUIDE (RIGHT), HOLDER	
134	X-3329-625-1	CHASSIS ASSY, MOTOR	
135	A-3133-236-A	WHEEL BLOCK ASSY, MOTOR	
136	3-333-173-01	PLATE, HYSTERESIS	
137	3-329-648-01	PLATE, SHIELD, MOTOR	
138	3-329-774-01	SPRING	
139	3-703-816-91	SCREW (M1.4X2.8), SPECIAL HEAD	
140	7-627-551-98	PRECISION SCREW +P 1.4X2.2	
141	7-627-552-48	SCREW, PRECISION +P 1.7X4	
142	3-331-082-01	SCREW, HD	
143	3-331-076-01	SCREW, AZIMUTH	
144	3-703-929-01	SHEET, INSULATING	
145	3-315-415-21	WASHER (1.5-2.3)	
146	*3-331-087-01	SPRING (POP UP)	
902	1-462-230-11	COIL, MOTOR (STATOR)	
904	1-617-017-11	PC BOARD, MOTOR CONNECTION	
CN101	1-506-573-12	CONNECTOR 2P	
HP101	1-543-310-11	HEAD, MAGNETIC (PLAYBACK)	

5-3.



- There are two kinds of play levers.

FORMER
X-3329-631-1

NEW
X-3329-679-1

No.	Part No.	Description	Remarks
201	X-3329-628-1	PULLEY COMPLETE ASSY, MIDWAY	
202	3-321-394-21	WASHER (t=0.2)	
203	3-331-047-01	SCREW (M1.4X1.4), SPECIAL HEAD	
204	X-3329-618-1	COVER ASSY, REEL	
205	3-329-689-01	GEAR (B), T	
206	3-329-688-01	GEAR (A), T	
207	3-331-017-01	SPRING, TENSION	
208	3-327-119-01	SHEET (B), INSULATING	
209	9-911-840-XX	CUSHION (B)	
210	X-3329-635-2	CHASSIS COMPLETE ASSY	
211	3-329-701-01	SPRING	
212	3-329-686-01	WHEEL, REVERSE	
213	9-911-863-XX	SPACER	
214	3-331-036-01	WASHER (t=0.25)	
	3-331-036-11	WASHER (t=0.19)	
215	3-331-007-01	WASHER (t=0.19)	
216	3-329-685-01	SPRING (A)	
217	3-331-008-01	SCREW (M1.4X1.1)(1), PRECISION	
218	3-329-698-01	SPRING (B)	
219	X-3329-616-1	LEVER (A) ASSY, DRIVING	
220	3-329-687-01	GEAR, DRIVING	
221	3-315-384-11	WASHER, STOPPER (t=0.25)	
222	3-331-018-01	SPRING, TENSION	
223	3-329-730-01	GEAR, CAM	
224	3-329-693-01	COLLAR, CAM GEAR	
225	3-329-700-01	SPRING	
226	3-329-733-01	LEVER (A), SHUT-OFF	
227	X-3329-615-1	LEVER ASSY, TRIGGER	
228	3-331-011-01	SPRING (TRIGGER LEVER), TENSION	

No.	Part No.	Description	Remarks
230	3-831-441-XX	SPACER	
231	3-703-929-01	SPACER, SWITCH	
232	*3-331-041-01	BRACKET, P	
233	3-578-224-00	WASHER	
234	3-331-009-01	SPRING (LOCK LEVER), TENSION	
235	3-329-731-01	LEVER, LOCK	
236	3-329-702-01	SPRING	
237	3-329-692-05	LEVER, SW	
238	3-331-010-01	SPRING (STOP LEVER), TENSION	
239	3-578-242-21	WASHER	
240	X-3329-631-1	(FORMER)...LEVER ASSY, PLAY	
240	X-3329-679-1	(NEW).....LEVER ASSY, PLAY	
241	3-578-224-11	WASHER (t=0.19)	
244	X-3329-678-1	LEVER ASSY, STOP	
245	3-331-016-01	SPRING	
246	X-3329-696-1	LEVER (A) ASSY, F.R	
247	3-329-769-01	KNOB, SAFETY LOCK	
248	3-329-697-01	SCREW, STEP, PRECISION	
249	X-3329-617-1	LEVER (B) ASSY, DRIVING	
250	*3-329-734-01	HOLDER, BUTTON	
251	3-331-043-01	SPRING	
252	3-703-816-31	SCREW (M1.4X1.6), SPECIAL HEAD	
253	3-331-056-01	SHAFT, DRIVING LEVER (B)	
254	3-329-699-01	SPRING	
255	X-3329-626-1	LEVER (B) ASSY, F.R	
256	7-627-551-37	SCREW, PRECISION +P 1.4X5	
257	3-331-081-01	WASHER	
258	3-331-111-01	SPRING, TENSION (PANEL LOCK LEVER A)	
905	1-617-019-11	PC BOARD, MP FLEXIBLE	
PM901	1-454-406-11	SOLENOID, PLUNGER (DIRECTION)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
901	A-3070-153-A	PC BOARD ASSY, AU		
902	1-462-230-11	COIL, MOTOR (STATOR)		
904	1-617-017-11	PC BOARD, MOTOR CONNECTION		
905	1-617-019-11	PC BOARD, MP FLEXIBLE		
C101	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C102	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C103	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C104	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C105	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
C106	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V
C107	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C108	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C109	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V
C110	1-163-075-00	CERAMIC CHIP 0.047MF	10%	25V
C111	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C112	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V
C113	1-163-074-00	CERAMIC CHIP 0.033MF	5%	25V
C114	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C115	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C116	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C117	1-163-081-00	CERAMIC CHIP 0.22MF		25V
C118	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C119	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C201	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C202	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C203	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C204	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C205	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
C206	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V
C207	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C208	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C209	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V
C210	1-163-075-00	CERAMIC CHIP 0.047MF	10%	25V
C211	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C212	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V
C213	1-163-074-00	CERAMIC CHIP 0.033MF	5%	25V
C214	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C215	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C216	1-163-013-00	CERAMIC CHIP 0.0022MF	10%	50V
C217	1-163-081-00	CERAMIC CHIP 0.22MF		25V
C218	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C219	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C301	1-124-431-00	ELECT 33MF	20%	4V
C302	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C303	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C304	1-163-038-00	CERAMIC CHIP 0.1MF		25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description		
C305	1-124-431-00	ELECT 33MF	20%	4V
C307	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
C308	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C309	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C310	1-124-413-00	ELECT 220MF	20%	4V
C311	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V
C312	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
C601	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V
C602	1-163-023-00	CERAMIC CHIP 0.015MF	10%	50V
C603	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V
C604	1-135-070-00	TANTAL. CHIP 0.1MF	10%	35V
C605	1-135-071-21	TANTAL. CHIP 0.15MF	10%	35V
C606	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C607	1-163-810-00	CERAMIC CHIP 0.03MF	10%	25V
C701	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C702	1-135-073-00	TANTAL. CHIP 0.33MF	10%	35V
C703	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C704	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C705	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C706	1-135-091-00	TANTAL. CHIP 1MF	10%	16V
C707	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C709	1-135-103-00	TANTAL. CHIP 3.3MF	10%	4V
C801	1-163-021-00	CERAMIC CHIP 0.01MF	10%	50V
C802	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C803	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
C804	1-124-413-00	ELECT 220MF	20%	4V
C805	1-135-104-00	TANTAL. CHIP 10MF	10%	4V
CN101	1-506-573-12	CONNECTOR 2P		
D302	8-719-908-30	DIODE DA106K		
D303	1-807-305-11	DIODE GL2PR9 (LED)		
D701	8-719-101-23	DIODE 1SS123		
D801	8-719-105-57	DIODE RD3.9M-B1		
HP101	1-543-310-11	HEAD, MAGNETIC (PLAYBACK)		
IC301	8-759-203-85	IC TA7739F		
IC302	8-759-701-07	IC NJM2063AM		
IC303	8-759-602-12	IC CX20089A		
IC601	8-752-012-32	IC CX20123		
J301	1-562-974-11	JACK (PHONES)		
L801	1-410-213-51	INDUCTOR CHIP 56UH		
PH701	8-719-751-42	DIODE NJL5141E-AA		
PM901	1-454-406-11	SOLENOID, PLUNGER (DIRECTION)		
Q301	8-729-271-29	TRANSISTOR 2SC2712		
Q302	8-729-271-29	TRANSISTOR 2SC2712		
Q303	8-729-216-22	TRANSISTOR 2SA1162		

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q601	8-729-162-44	TRANSISTOR 2SB624-BV4
Q602	8-729-271-29	TRANSISTOR 2SC2712
Q603	8-729-271-29	TRANSISTOR 2SC2712
Q604	8-729-162-44	TRANSISTOR 2SB624-BV4
Q701	8-729-902-38	TRANSISTOR TA86E
Q702	8-729-271-29	TRANSISTOR 2SC2712
Q703	8-729-162-44	TRANSISTOR 2SB624-BV4
Q704	8-729-271-29	TRANSISTOR 2SC2712
Q705	8-729-900-51	TRANSISTOR DTA114TK
Q706	8-729-902-38	TRANSISTOR TA86E
Q707	8-729-902-96	TRANSISTOR FMS1
Q708	8-729-216-22	TRANSISTOR 2SA1162
Q709	8-729-900-51	TRANSISTOR DTA114TK
Q710	8-729-902-99	TRANSISTOR DTC114TK
Q711	8-729-900-51	TRANSISTOR DTA114TK
Q713	8-729-902-93	TRANSISTOR FMG4
Q714	8-729-271-29	TRANSISTOR 2SC2712
Q715	8-729-162-44	TRANSISTOR 2SB624-BV4
Q718	8-729-216-22	TRANSISTOR 2SA1162
Q801	8-729-902-38	TRANSISTOR TA86E
Q802	8-729-162-44	TRANSISTOR 2SB624-BV4
Q803	8-729-271-29	TRANSISTOR 2SC2712
Q804	8-729-159-64	TRANSISTOR 2SD596
Q805	8-729-271-29	TRANSISTOR 2SC2712
Q806	8-729-162-44	TRANSISTOR 2SB624-BV4
R101	1-216-085-00	METAL CHIP 33K 5% 1/10W
R102	1-216-085-00	METAL CHIP 33K 5% 1/10W
R103	1-216-097-00	METAL CHIP 100K 5% 1/10W
R104	1-216-117-00	METAL CHIP 680K 5% 1/10W
R105	1-216-085-00	METAL CHIP 33K 5% 1/10W
R106	1-216-055-00	METAL CHIP 1.8K 5% 1/10W
R107	1-216-058-00	METAL CHIP 2.4K 5% 1/10W
R108	1-216-089-00	METAL CHIP 47K 5% 1/10W
R109	1-216-089-00	METAL CHIP 47K 5% 1/10W
R110	1-216-112-00	METAL CHIP 430K 5% 1/10W
R111	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R112	1-216-075-00	METAL CHIP 12K 5% 1/10W
R201	1-216-085-00	METAL CHIP 33K 5% 1/10W
R202	1-216-085-00	METAL CHIP 33K 5% 1/10W
R203	1-216-097-00	METAL CHIP 100K 5% 1/10W
R204	1-216-117-00	METAL CHIP 680K 5% 1/10W
R205	1-216-085-00	METAL CHIP 33K 5% 1/10W
R206	1-216-055-00	METAL CHIP 1.8K 5% 1/10W
R207	1-216-058-00	METAL CHIP 2.4K 5% 1/10W
R208	1-216-089-00	METAL CHIP 47K 5% 1/10W
R209	1-216-089-00	METAL CHIP 47K 5% 1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R210	1-216-112-00	METAL CHIP 430K 5% 1/10W
R211	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R212	1-216-075-00	METAL CHIP 12K 5% 1/10W
R301	1-216-089-00	METAL CHIP 47K 5% 1/10W
R302	1-216-089-00	METAL CHIP 47K 5% 1/10W
R303	1-216-049-00	METAL CHIP 1K 5% 1/10W
R304	1-216-097-00	METAL CHIP 100K 5% 1/10W
R305	1-216-113-00	METAL CHIP 470K 5% 1/10W
R306	1-216-113-00	METAL CHIP 470K 5% 1/10W
R309	1-216-056-00	METAL CHIP 2K 5% 1/10W
R310	1-216-058-00	METAL CHIP 2.4K 5% 1/10W
R311	1-216-025-00	METAL CHIP 100 5% 1/10W
R312	1-216-113-00	METAL CHIP 470K 5% 1/10W
R313	1-216-101-00	METAL CHIP 150K 5% 1/10W
R314	1-216-121-00	METAL CHIP 1M 5% 1/10W
R315	1-216-091-00	METAL CHIP 56K 5% 1/10W
R601	1-216-049-00	METAL CHIP 1K 5% 1/10W
R602	1-216-073-00	METAL CHIP 10K 5% 1/10W
R603	1-216-073-00	METAL CHIP 10K 5% 1/10W
R604	1-216-085-00	METAL CHIP 33K 5% 1/10W
R605	1-216-083-00	METAL CHIP 27K 5% 1/10W
R606	1-216-091-00	METAL CHIP 56K 5% 1/10W
R607	1-216-077-00	METAL CHIP 15K 5% 1/10W
R608	1-216-089-00	METAL CHIP 47K 5% 1/10W
R609	1-216-049-00	METAL CHIP 1K 5% 1/10W
R610	1-216-001-00	METAL CHIP 10 5% 1/10W
R611	1-216-097-00	METAL CHIP 100K 5% 1/10W
R612	1-216-101-00	METAL CHIP 150K 5% 1/10W
R613	1-216-049-00	METAL CHIP 1K 5% 1/10W
R614	1-216-049-00	METAL CHIP 1K 5% 1/10W
R615	1-216-101-00	METAL CHIP 150K 5% 1/10W
R616	1-216-097-00	METAL CHIP 100K 5% 1/10W
R617	1-216-001-00	METAL CHIP 10 5% 1/10W
R618	1-216-049-00	METAL CHIP 1K 5% 1/10W
R701	1-216-089-00	METAL CHIP 47K 5% 1/10W
R702	1-216-085-00	METAL CHIP 33K 5% 1/10W
R703	1-216-053-00	METAL CHIP 1.5K 5% 1/10W
R705	1-216-035-00	METAL CHIP 270 5% 1/10W
R706	1-216-101-00	METAL CHIP 150K 5% 1/10W
R707	1-216-113-00	METAL CHIP 470K 5% 1/10W
R708	1-216-025-00	METAL CHIP 100 5% 1/10W
R709	1-216-097-00	METAL CHIP 100K 5% 1/10W
R710	1-216-049-00	METAL CHIP 1K 5% 1/10W
R711	1-216-089-00	METAL CHIP 47K 5% 1/10W
R712	1-216-097-00	METAL CHIP 100K 5% 1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R713	1-216-073-00	METAL CHIP	10K	5%	1/10W
R714	1-216-049-00	METAL CHIP	1K	5%	1/10W
R715	1-216-097-00	METAL CHIP	100K	5%	1/10W
R716	1-216-121-00	METAL CHIP	1M	5%	1/10W
R717	1-216-121-00	METAL CHIP	1M	5%	1/10W
R718	1-216-121-00	METAL CHIP	1M	5%	1/10W
R719	1-216-121-00	METAL CHIP	1M	5%	1/10W
R720	1-216-113-00	METAL CHIP	470K	5%	1/10W
R721	1-216-121-00	METAL CHIP	1M	5%	1/10W
R722	1-216-097-00	METAL CHIP	100K	5%	1/10W
R723	1-216-097-00	METAL CHIP	100K	5%	1/10W
R724	1-216-073-00	METAL CHIP	10K	5%	1/10W
R725	1-216-025-00	METAL CHIP	100	5%	1/10W
R726	1-216-097-00	METAL CHIP	100K	5%	1/10W
R727	1-216-049-00	METAL CHIP	1K	5%	1/10W
R728	1-216-085-00	METAL CHIP	33K	5%	1/10W
R732	1-216-089-00	METAL CHIP	47K	5%	1/10W
R733	1-216-073-00	METAL CHIP	10K	5%	1/10W
R734	1-216-073-00	METAL CHIP	10K	5%	1/10W
R801	1-216-083-00	METAL CHIP	27K	5%	1/10W
R803	1-216-085-00	METAL CHIP	33K	5%	1/10W
R804	1-216-049-00	METAL CHIP	1K	5%	1/10W
R805	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R806	1-216-113-00	METAL CHIP	470K	5%	1/10W
R807	1-216-085-00	METAL CHIP	33K	5%	1/10W
R808	1-216-113-00	METAL CHIP	470K	5%	1/10W
R809	1-216-035-00	METAL CHIP	270	5%	1/10W
R810	1-216-007-00	METAL CHIP	18	5%	1/10W
RV101	1-237-002-11	RES, ADJ, METAL GLAZE 2.2K			
RV201	1-237-002-11	RES, ADJ, METAL GLAZE 2.2K			
RV301	1-230-955-11	RES, VAR, CARBON 10K/10K (VOL)			
RV601	1-237-004-11	RES, ADJ, METAL GLAZE 10K			
S301	1-570-396-11	SWITCH, SLIDE			
S302	1-570-397-11	SWITCH, SLIDE (TAPE)			
S303	1-570-397-11	SWITCH, SLIDE (DOLBY NR)			
S701	1-570-548-11	SWITCH, LEAF			
S702	1-570-395-11	SWITCH, LEAF (DIR)			
T801	1-447-864-11	TRANSFORMER, DC-DC CONVERTER			

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-528-176-11	(US,Canadian)..BATTERY, STORAGE (NC-5WM)
1-528-181-11	(US,Canadian)..BATTERY CHARGER (BC-7)
3-329-792-02	CUSHION
3-329-793-02	LID, CUSHION
3-329-794-01	(E).....INDIVIDUAL CARTON
3-329-795-01	(US).....INDIVIDUAL CARTON
3-329-796-01	(Canadian)...INDIVIDUAL CARTON
3-329-797-01	(AEP,UK).....INDIVIDUAL CARTON
3-331-028-01	SPACER
3-331-054-01	CASE, CARRYING
3-701-622-00	BAG, POLYETHYLENE
3-527-213-00	(Canadian,AEP,UK,E)...LABEL, SERIAL NUMBER
*3-701-999-00	(US).....LABEL, SERIAL NUMBER
3-704-080-01	(RED).....LABEL, COLOR
3-704-085-01	(BLUE).....LABEL, COLOR
3-704-086-01	LABEL (BLACK), GENERAL DISCERN
3-704-087-01	LABEL (SILVER), GENERAL DISCERN
3-760-813-11	(AEP,UK,E).....MANUAL, INSTRUCTION
3-760-813-21	(US,Canadian)...MANUAL, INSTRUCTION
3-760-813-31	(Canadian).....MANUAL, INSTRUCTION
3-760-813-41	(AEP).....MANUAL, INSTRUCTION
3-795-748-21	SAFETY INSTRUCTIONS, HEADPHONE
8-952-236-90	(E)....HEADPHONE MDR-E212
8-952-266-94	(US,Canadian,AEP,UK)...HEADPHONE MDR-A10L/B
X-3329-647-1	CASE (A) ASSY, BATTERY (RECHARGEABLE)
X-3329-645-1	CASE (A) ASSY, BATTERY

9-952-122-11
(Including 9-952-122-91)

Sony Corporation

English
8610607-2
Printed in Japan
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